

REMARKS

Applicants note that all amendments of Claims presented herein are made without acquiescing to any of the Examiner's arguments or rejections, and solely for the purpose of expediting the patent application process in a manner consistent with the PTO's Patent Business Goals (PBG),¹ and without waiving the right to prosecute the amended Claims (or similar Claims) in the future.

In the Office Action dated 2/6/08, the Examiner rejected Claims 18-21 and 24-25 under 35 U.S.C. 103(a) as allegedly being obvious in light of Erisir et al. (J. Neurophysiology, 1999, 82:2476; hereinafter Erisir), Baranauskas et al. (J. Neuroscience 1999, 10:6394; hereinafter Baranauskas), Tkatch et al (Society for Neuroscience, 1999, 25L Abstract 179.17), Weiser et al. (J. Neuroscience, 15:4298 (1995); hereinafter Weiser), Tuschl et al (WO 02/44321; hereinafter Tuschl), and Low et al. (U.S. Patent 6,071,891; hereinafter Low).

The Applicants respectfully disagree and submit that the Examiner has not demonstrated a prima facie case of obviousness. The Examiner states "Finally, one would have a reasonable expectation of success at targeting a Kv3.4 gene given Weiser et al. teach the cDNA to said genes and Tuschl et al. teach the basic blue print of making and using siRNA..." (Office Action, pg. 7). The Applicants respectfully disagree and direct the Examiner to the Office's own "Examination guidelines for determining obviousness under 35 U.S.C. 103 in view of...KSR..." (Federal Register, Vol. 72, No. 195), which states that in order to support prima facie obviousness, there must be

“(2) a finding that there had been a finite number of identified, predictable potential solutions to the recognized need or problem;

(3) a finding that one of ordinary skill in the art could have pursued the known potential solutions with a reasonable expectation of success...” (p. 57532)

The Applicants submit that the Examiner has demonstrated neither the existence of a finite number of predictable solutions nor a reasonable expectation of success should the references be combined (which the Applicants assert would be an improper combination). Indeed, the present specification states “Moreover, the Kv3.4 subunit was surprisingly and unexpectedly discovered to be expressed in FS neurons, but not in non-FS neurons.” Specification, pg. 29, lines 7-8. The specification further states:

¹ 65 Fed. Reg. 54603 (Sept. 8, 2000).

“There are four known members of the Kv3 class: Kv3.1, Kv3.2, Kv3.3 and Kv3.4. It was discovered that these subunits form heteromeric channel complexes, and that the inclusion of a particular splice variant of the Kv3.4 subunit, Kv3.4a, dramatically increases the efficiency of heteromeric Kv3 channels in spike repolarization. Surprisingly, Kv3.4a mRNA is only expressed in fast-spiking neurons.” (Specification, pg. 29, lines 26-3).

The Examiner has pointed to no evidence in the cited art or the knowledge of one of skill in the art that would lead one to target Kv3.4 in order to decrease sustained high frequency discharge in a fast spiking neuronal cell. The Examiner has further not pointed to any evidence that one of skill in the art would have a reasonable expectation of success, should the claimed combination be carried out. Indeed, as stated above, the results obtained by the inventors were unexpected and surprising. The prior art provided no finite number of predictable solutions and no expectation of success. The Applicants’ own data teaches away from an expectation of success. Prior to the present invention, one would not have been motivated to make the combination with a reasonable expectation of success.

Furthermore, none of the cited references, alone or in combination (even if improperly combined) teach a method wherein inhibition of Kv3.4 expression results in a decrease in the fast spiking behavior of a neuronal cell, nor is this predicable from the cited art (see above discussion).

The Applicants thus submit that the Examiner has failed to provide a prima facie case of obviousness. Nonetheless, the Applicants provide the Declaration of D. James Surmeier. Dr. Surmeier’s declaration states that prior to the present invention, it would not have been obvious to combine the teachings of Erisir, Baranauskas, Tkatch, Weiser, Tuschl and Low to arrive at the presently claimed invention because, prior to the present invention, one would not have been able to predict that Kv3.4 subunits were important to the ability of neurons to spike at high frequencies, and thus would not have been motivated to inhibit their activity in order to decrease spiking at high frequencies. As such, the Applicants submit that the Claims are not obvious and respectfully request that the rejection be withdrawn.

CONCLUSION

All grounds of rejection and objection of the Final Office Action of October 4, 2007 having been addressed, reconsideration of the application is respectfully requested. It is respectfully submitted that the invention as claimed fully meets all requirements and that the claims are worthy of allowance. Should the Examiner believe that a telephone interview would aid in the prosecution of this application, Applicant encourages the Examiner to call the undersigned collect at (608) 218-6900.

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/Tanya A. Arenson/
Tanya A. Arenson
Registration No. 47,391

CASIMIR JONES, S.C.
440 Science Drive, Suite 203
Madison, WI 53711